Modified Han scale or Han-R scale for mask ventilation

Description without muscle relaxation*			Description with muscle relaxation*,‡	
Ventilated by mask	1		Ventilated by mask	1R
Ventilated by mask by oral or airway adjuvant (Guedel cannula or similar)	2	-†	Ventilated by mask by oral or airway adjuvant (Guedel cannula or similar)	2R
Difficult ventilation (inadequate, unstable, or requiring two providers)	3		Difficult ventilation (inadequate, unstable, or requiring two providers)	3R
Unable to mask ventilation	4		Unable to mask ventilation	4R

*The Han grade under each relaxation condition should only be stated if tested.
†If facemask ventilation without and with relaxation has been tested, each grade should be stated in this order and separated by a hyphen (i.e., Han 2-1R).
‡If facemask ventilation was only tested under muscle relaxation, the "R" grade should be stated directly (i.e., Han 2R).

Fig. 1. Modified Han scale or Han-R scale for mask ventilation.

required for the Han-R scale, making the potential adoption of this scale in day-to-day clinical practice simple and immediate.

In summary, specifying the relaxation status during FMV and any changes in difficulty using the modified Han or "Han-R" scale is a simple way to add important information analogous to specifying the use of BURP or other adjuvant maneuvers alongside the Cormack-Lehane grade in the patient's medical record.

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Serratus posterior superior intercostal plane block: novel block for minimal invasive cardiac surgery -A report of three cases-

Median sternotomy is the standard approach for cardiac surgery (CS). However, conventional CS has some disadvantages such as severe pain, a long hospital stay, and cosmetic concerns. Minimally invasive cardiac surgery (MICS) is not associated with these disadvantages [1]. MICS facilitates earlier mobilization and faster postoperative recovery. Incision types for MICS include upper/lower hemisternotomy and right/left anterior minithoracotomy. An incision is made at the level of the second, third, or fourth intercostal space, with the patient in the supine position [1]. Patients may experience severe pain due to the involvement of the intercostal nerves and rib retraction [1]. The serratus anterior plane block (SAPB), erector spinae plane block (ESPB), transverse thoracic muscle plane block (TTMPB), and pecto-intercostal fascial plane block (PIFPB) may be used for analgesia after MICS [2–4]. The serratus posterior superior intercostal plane block (SPSIPB) is a novel block that is performed between the serratus posterior superior (SPSm) and the intercostal (ICm) muscles [5]. As an example for thoracic analgesia, the SPSIPB has been used to provide analgesia after breast surgery [5]. Our aim here is to report on our experience with administering SPSIPBs for left-sided MICS in three patients. Written informed consent was obtained from all the patients.

The demographics of the patients were as follows: male aged 50 years (Patient 1), female aged 53 years (Patient 2), and female aged 47 years (Patient 3). The height/weight of the patients were 172 cm/75 kg, 168 cm/80 kg, and 160 cm/70 kg, respectively. At the end of surgery, each patient underwent an SPSIPB in the lateral decubitus position. A linear probe was placed near the medial border of the scapula and a 22-G, 80-mm block needle (Stimuplex® Ultra 360®, B-Braun) was inserted between the third rib and the SPSm (Fig. 1). After correction, 30 ml of 0.25% bupivacaine was administered. Ibuprofen 400 mg and tramadol 100 mg were administered intravenously at the end of surgery. All patients were transferred to the cardiovascular intensive care unit (CVICU) after surgery and were attached to a patient-controlled analgesia (PCA) device containing tramadol (2 mg/ml, 10-mg bolus, 7 mg/h infusion, 20-min lockout, and 4 h). Patients were extubated 2 h after admission to the CVICU. 400 mg of ibuprofen was administered intravenously every 8 h. Pain was evaluated using the numerical rating scale (NRS) and the sedation level was assessed using a 4-point sedation scale during the NRS evaluation. The sedation level of all the patients was zero during assessments. The NRS scores at 2, 4, 8, 16, and 24 h were 1/1/3/2/0 for Patient 1, 1/1/2/1/0 for Patient 2, and 1/2/3/2/1 for Patients 3, respectively. The blockade lasted a maximum of 8 h. The posteroanterolateral dermatomal coverage (pin-prick test) was between C5-T8, C5-T7, and C6-T8 for each patient, respectively. The PCA dose administered to each patient was a 20-mg bolus.

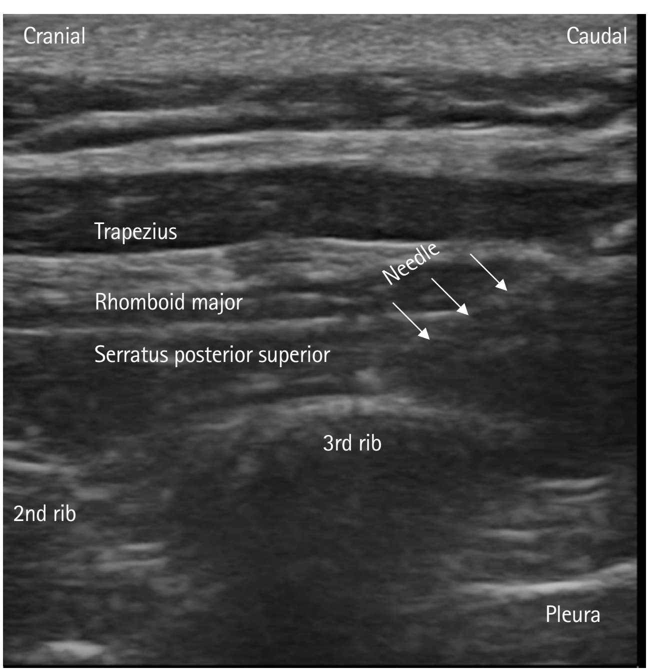

Fig. 1. Sonoanatomy and needle direction during serratus posterior superior intercostal plane block. The trapezius, rhomboid major, and serratus posterior superior muscles; second and third ribs; and the pleura are visible as anatomical landmarks. The needle is facing the cranio-caudal direction. The needle tip is visible just over the third rib.

The use of SAPBs in cardiothoracic surgery is a safe and effective option for postoperative pain [2]. The SAPB targets the lateral branches of the intercostal nerves. As these nerves receive sensory innervation from the anterolateral thorax, the SAPB only provides anterolateral hemithoracic analgesia. In contrast, the SPSIPB provides anteroposterior thoracic analgesia, as a recent report shows dye spreading from the C7 to the T7 ICm and nerves [5]. Based on the spread pattern, the SPSIPB may be a better choice than the SAPB for CS. However, the patient must be moved to the lateral decubitus position for the SPSIPB, while the SAPB can be performed after MICS without any positional changes. This can be a significant limitation for the use of SPSIPB in MICS. This position makes the paravertebral block (PVB) easier to perform than the SPSIPB. The PVB, however, is associated with a high risk of complications such as pneumothorax and vascular injury; thus the SPSIPB is safer than the PVB. The ESPB is effective for analgesia after CS. However, it was recently reported that ESPB was not associated with a significant reduction in pain after CS [3]. The TTMPB, which is performed between the transverse thoracic muscle and the ICm, provides effective analgesia management following CS; however, the area of block coverage is close to the blood vessels and pleura [4]. The PIFPB is performed between the pectoralis major muscle and the ICm [4]. However, the PIFPB fails to cover the T6 level. Both the TTMPB and PIFPB are close to the surgical area, and their effectiveness may be affected by the type of surgery.

In conclusion, we evaluated the efficacy of SPSIPB in patients who underwent MICS. SPSIPB provides effective analgesia management after MICS. A randomized controlled trial would be better suited to accurately judge the feasibility of the SPSIPB, rather than a case report.

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Comment on "The novel diagonal suprascapular canal block for shoulder surgery analgesia: a comprehensive technical report"

Dear Editor,

I read with keen interest a technical report published recently in the *Korean Journal of Anesthesiology* describing the "diagonal suprascapular canal (DiSC)" approach for the suprascapular nerve (SSN) block [1] and wish to present my reflections.

I believe strongly that a few points need to be considered before this technique is adopted for perioperative analgesia. First, providing the SSN block at the midpoint between the suprascapular and spinoglenoid notches to selectively target the lateral trunk of the SSN might be a better option for patients with chronic pain, as suggested previously by Tran et al. [2]. However, applying the same technique for "shoulder surgery analgesia," as per the title of this technical report [1], might not be adequate because the medial trunk of the SSN, which provides sensory coverage predominantly to the anterior region of the shoulder [3], also contributes to pain in surgical procedures. Furthermore, a previous cadaveric study found anatomical variations such that the "posterior region received innervation from the proximal branch of the medial trunk in half of the specimens" [3].

The author states that for patients with respiratory compromise, the sub-omohyoid SSN block may not be considered because of the risk of phrenic nerve involvement as well as significant associated sensory and motor block of the upper limb [1]. However, this statement contradicts a point based on two published articles made earlier in the article that "the main advantage of this combined shoulder block compared with other techniques, such as the interscalene block, is the reduction in the motor and sensory block of the upper limbs and minimal phrenic paralysis" [1]. In addition, the sub-omohyoid approach was not used in the cadaveric study cited for phrenic nerve staining (Ref #5 of the technical report [1]); thus, the statement is not supported by that study. Indeed, that study [2] describes the SSN block at the midpoint between the suprascapular and spinoglenoid notches, similar to the technique described in this report [1]. Moreover, many clinical studies have shown that the sub-omohyoid SSN block does not compromise respiratory function, unlike the interscalene block, while the analgesic efficacy is similar. Because of the restriction of number of references, I will discuss two studies that specifically focus on this point [4,5]. Lim et al. [4] observed a significant reduction of forced vital capacity and diaphragmatic excursion in the interscalene block group when compared to the anterior and posterior SSN blocks. Notably, that study also found that pain relief was better with the anterior approach (sub-omohyoid plane at the supracla-